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ABSTRACT

Designed for community colleges and technical institutes, this manual presents a systematic approach to the process of reviewing employer and employee education and training needs. Section I presents the Business, Industry, and Labor (BIL) Needs Assessment Model, detailing the following procedures: (1) identify the BIL project coordinator; (2) determine project objectives; (3) identify and train the needs assessment team; (4) select occupational areas for study; (5) determine data collection and sampling strategies; (6) identify and select target employers; (7) identify job titles to be investigated; (8) customize the survey instrument; (9) coordinate employer lists and instruments; (10) assign data collection responsibilities; (11) duplicate survey instruments; (12) collect data; (13) code data; (14) process and analyze data; (15) distribute data; and (16) make programmatic decisions. This section also delineates the responsibilities of the assessment team and provides materials illustrating various data gathering strategies. Background information related to the development of the model, and a review of its pilot testing in Orangeburg, South Carolina; Dallas, Texas; and Wausau, Wisconsin are provided in section II. A draft description of the needs assessment model, computer coding and program information, and agendas for workshops conducted during the pilot testing are appended. (LAL)

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Postsecondary

BUSINESS AND INDUSTRY NEEDS ASSESSMENT MODEL

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THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY

A MODEL PACKAGE TO ASSESS THE EDUCATION AND TRAINING NEEDS OF BUSINESS, INDUSTRY, AND LABOR

A PROJECT OF THE
POSTSECONDARY ALLIANCE OF INSTITUTIONS/DISTRICTS
March 1981

Leonard O. Nasman

The National Center for Research in Vocational Education
The Ohio State University
Columbus, Ohio 43210

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Contractor: The National Center for Research in Vocational Education

Executive Director: Robert E. Taylor

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FOREWORD

Continuous interaction between business industry and postsecondary institutions is vital if the institutions are to adequately serve the changing needs of their community.

Realization of this fact has led members of the National Postsecondary Alliance to combine their resources to develop a systematic approach to the process of reviewing the education and training needs of employers and employees. This publication is designed to assist postsecondary institutions in meeting the challenge of identifying and responding to the constantly changing needs of their constituent groups.

This project has been made possible through the efforts and contributions of ten members of the Postsecondary Education Alliance of Institutions/Districts. The institutions participating in this project were: Caldwell Community College, Hudson, NC; Dallas County Community College District, Dallas, TX; Kalamazoo Valley Community College, Kalamazoo, MI; Hocking Technical College, Nelsonville, OH; Linn-Benton Community College, Albany, OR; Milwaukee Area Technical College, Milwaukee, WI; North Central Technical Institute, Wausau, WI; Northern Essex Community College, Haverhill, MA; Orangeburg-Calhoun Technical College, Orangeburg, SC; Trident Technical College, Charleston, SC. We wish to thank the individuals who coordinated the pilot testing efforts at their respective institutions. These individuals were: Carey Rector, Dallas Community College District; M. Patrick Black, Orangeburg-Calhoun Technical College; and Russell Paulson, North Central Technical Institute.

Special thanks are in order to the National Center staff members who provided valuable assistance in completion of this project. Scot Krause contributed to the review of literature and the design of the instrumentation used in the model. Dr. Ronald Denison, Director of the National Postsecondary Alliance, contributed to the initial conceptualization of the model, the development and conduct of the pilot testing workshops, and to the overall management of the project.

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

PREFACE

A major goal of postsecondary institutions (community colleges, technical colleges, and technical institutes) is that of providing the educational experience required for individuals to enter and remain in the labor force. To effectively achieve this goal, it is necessary for postsecondary institutions to work closely with Business, Industry, and Labor (hereafter referred to by the acronym B.I.L.) to continually monitor employee education and training needs. To aid in meeting this goal, members of the National Postsecondary Alliance with, technical assistance from The National Center for Research in Vocational Education, have developed this B.I.L. needs assessment model.

This document outlines a systematic approach to the process of reviewing employer and employee needs. It also contains sections that review the rationale and development process which provided a basis for the model.

The system presented is not meant to duplicate or replace the regional or state systems designed to provide general planning information. Neither is it meant to replace specifically focused occupational or task analysis systems. Rather it is meant to fill the need for a cost-effective, locally focused data collection system that will provide a basis for a postsecondary institution to make decisions relative to pre- and post-employment education and training programs.

Section I presents the B.I.L. Needs Assessment Model which contains a systematic design for a needs assessment project along with details regarding the procedures to be followed. Section II provides background information relative to the development of the model and contains a review of the pilot testing phase of the project. Section III contains a copy of the original document presented to the Technical Review Panel (Appendix A). This document reviews the assumptions, rationale, and the review of existing models that provided the foundation on which the B.I.L. Needs Assessment Model was built. Also contained in Section III are the computer programs developed for the analysis of data generated by the employer survey (Appendix B).

I. B.I.L. NEEDS ASSESSMENT MODEL

A. INTRODUCTION

This model has been developed by members of the National Postsecondary Alliance with technical assistance from the staff of the National Center for Research in Vocational Education at The Ohio State University. The intent of this model is to provide a system designed to provide specific information regarding the needs of local employers and employees for the purpose of local short-term decision making and program planning.

B. PROCEDURES

Although simple in principle, the process of determining the specific education and training needs of employers can result in the necessity of resolving fairly complex issues and the collection and analysis of extremely large volumes of data. It is desirable to completely plan and organize each activity as far in advance of execution as possible. Figure I provides an overview of the B.I.L. Needs Assessment System. Each procedure is discussed below, and some processes are dealt with in more detail in separate sections. During the pilot testing phase of the model development, a number of critical points arose that affect the outcome of a B.I.L. needs assessment project. A discussion of these issues will be included within this procedures section, as well as, in the analysis of pilot test efforts in Section II. The numbers of each of the following procedures correspond to the circled numbers in Figure I.

1. IDENTIFY B.I.L. PROJECT COORDINATOR

Due to the desirability of distributing the workload of the B.I.L. needs assessment among a number of individuals, it is necessary to identify an individual who will have the primary responsibility of coordinating the project.

2. DETERMINE PROJECT OBJECTIVES

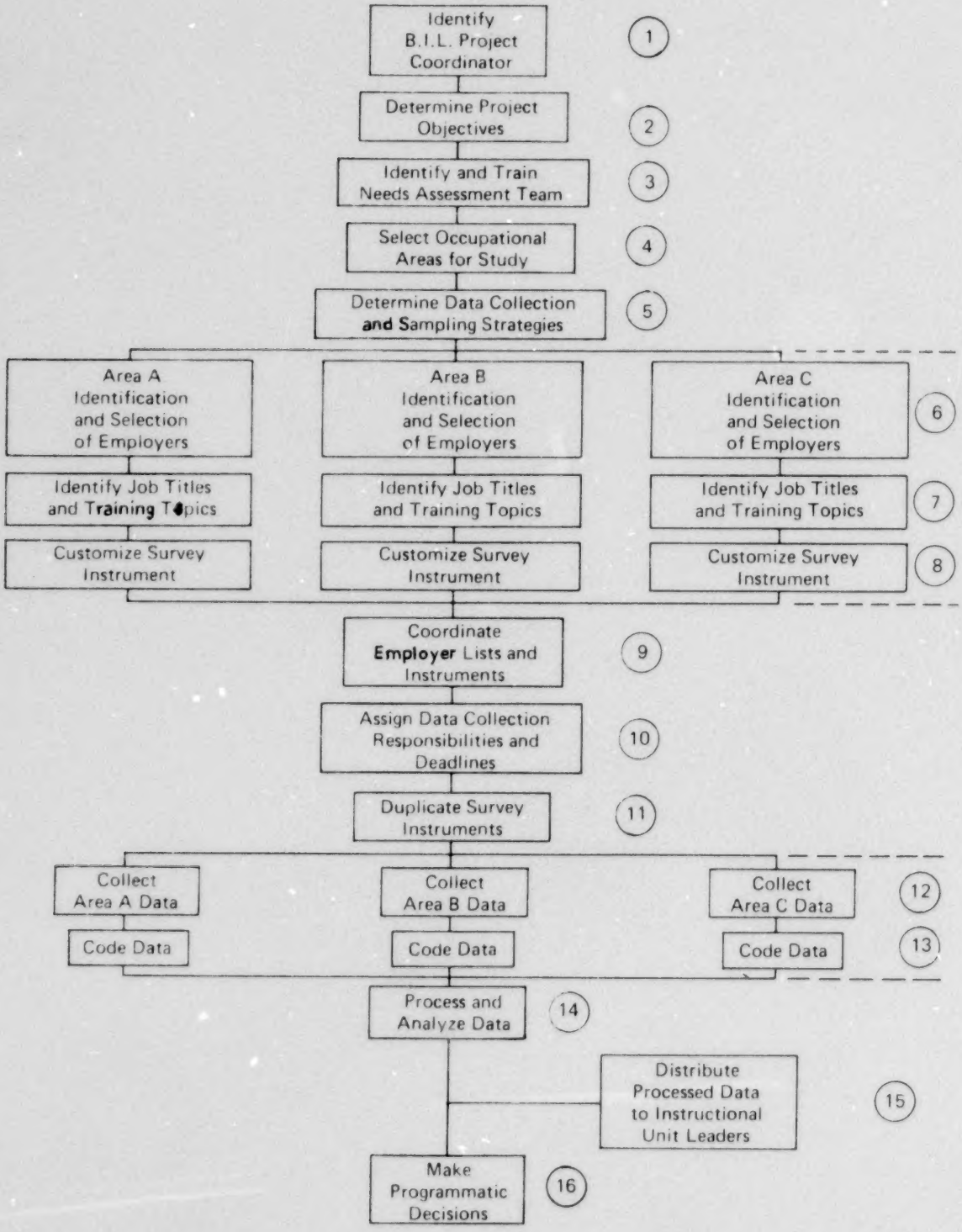
The specific purpose or objective of the B.I.L. needs assessment project will vary from institution to institution and from one application of the model to the next. Because the degree of rigor that is applied to various procedures will determine the appropriate application of the results, it is important to clearly and specifically state the objectives at the outset. For example, if the primary objective is to identify possible expansion programs, the selection of employers to be sampled would be different than if the objective is improvement of existing programs. In the latter case, it would be more useful to include a greater percentage of employers who have hired program graduates than in the former.

Typical objectives for application of the model might include:

- Identification of short-term special training program needs of local companies in office occupations (or any other program area).
- Providing a basis for determining if program content balance is appropriate for the current job market.

FIGURE 1

B.I.L. NEEDS ASSESSMENT SYSTEM



- Identifying areas where program expansion (or reduction) appears in order.
- Identifying areas where new programs might be added.
- Identification of appropriate levels of training.
  Determination of possible public relations problems.
- Providing a data base for decisions relative to scheduling (or program location).

It will be very tempting to try to meet a maximum number of objectives with each application of the model (some would say "more bang for the buck"). If one yields to this temptation, it is likely that the project will either sink under the weight of the volume of data collected, or be stretched too thin by attempting to cover an excessively broad scope of content. Our pilot testing suggests that it may be impossible to develop objectives that are too narrow for a particular application of the model.

3. IDENTIFY AND TRAIN NEEDS ASSESSMENT TEAM

The needs assessment team is the group that will have maximum influence on the quality of the project. It has been observed that the degree of commitment of team members is to a great deal influenced by how close they are to applications of the data collected. For example, a division director will have more interest in developing instruments and collecting data to be used in division program expansion than in expanding continuing education offerings. Of course, the reverse is also true. Even though this may appear to be a statement of the obvious, in at least one pilot test site, some assessment team members were less than enthusiastic about collecting data for other sectors of the college. Even though there were other logical reasons for selecting these individuals, the process suffered from a basic human factor. Also, because the greater the "ownership" of the project design, the greater the commitment to the task, the needs assessment team should be involved as early as possible in the resolution of procedural details and issues.

Training for the team should include an overview of the project, clarification of all terminology used in the data collection instruments, and if the interview technique is selected, a series of practice interviews. These should be followed by a group session where experiences of team members are shared, and collected data is reviewed and coded to ensure consistent application of the interview instrument.

4. SELECT OCCUPATIONAL AREAS FOR STUDY

The selection of occupational areas has two aspects. The first was dealt with in some degree in the section on objectives. It may be that the application of the B.I.L. needs assessment model will be limited to one specific occupational area. This is especially suggested for the institution's first experience. The second aspect of occupational areas relates to employers and instrument design.

Even a very limited survey results in an intrusion and burden on the employer. Some survey instruments reviewed in the development of this model contained long all-inclusive lists of job titles or training topics, and required the employer to wade through a large volume to report information relative to those few that were applicable. Ideally, one would only ask questions of an employer that were directly applicable. This would require that a separate instrument be developed for each employer, which is unrealistic. The compromise suggested is to identify the major occupational areas or clusters and develop a version of the instrument for each area. The employers to be surveyed are placed in groups corresponding to the occupational areas identified, and the instrument will have a greater degree of relevance in each application. Because of the design of the basic instrument format, having 8 or 12 versions of the instrument does not cause difficulty in coding or processing the data for analysis.

employers to be surveyed are placed in groups corresponding to the occupational areas identified, and the instrument will have a greater degree of relevance in each application. Because of the design of the basic instrument format, having 8 or 12 versions of the instrument does not cause difficulty in coding or processing the data for analysis.

5. DETERMINE DATA COLLECTION AND SAMPLING STRATEGIES

There are three basic data collection techniques commonly used to collect data in this type of project. They are the personal interview, the telephone survey, and the mail survey. The most effective form is the interview. It also provides the greatest opportunity for positive public relations benefits and increased institution/employer communications. The Telephone survey may be a desirable substitute for the interview in the case where the employer is small enough to have the required data on the "tip of the tongue." An example might be a shop where only 3 or 4 employees have been hired in the last 5 years. If a large number of employers are to be surveyed, a mailed survey may be the only affordable alternative. However, the rate of response to mailed surveys of this type is rarely very high. Additional details on these survey techniques may be found in a later section.

6. IDENTIFICATION AND SELECTION OF EMPLOYERS

At this point, a list of employers to be surveyed should be prepared for each occupational area identified in number 4. The team will be divided into sub-teams for each occupational area. Each employer included on the list should be assigned an identification number to be used in coding later on. This number can identify type, size, or other relevant information. For example, 4000 to 4999 may be health related, 5000 to 5999 forestry, 4100 could be a small clinic, 4900 a large hospital, etc.

7. IDENTIFY JOB TITLES AND TRAINING TOPICS

For the purposes of this project the term "job title" shall refer to the name of the positions for which the institution is (or might be) providing pre-employment education or training.

The purpose of identifying job titles is to provide a listing to be used on the B.I.L. Needs Survey Instrument (see Figures 2 and 3). The job titles will appear in two different sections of the survey instrument. The first includes those jobs for which the institution is presently preparing people to enter. The second is a list of those jobs for which the institution is *not* presently preparing people, but *might* if a sufficient need exists.

The job titles should be kept fairly general (i.e., "Welder" rather than "Lincoln Welding Machine Operator IIa"). This is because different jobs at different companies sometimes have the same title, while the same job at different companies sometimes has a different title. Keep in mind that the purpose of this assessment is to identify areas where modifications may be required to meet employer needs. Once specific areas have been identified through this assessment, the necessary details will be collected by means of a thorough occupational or task analysis.

Job titles may be identified by examination of program brochures, catalogs, discussions with key program personnel, and through input from adivsory committees. Each job title listed should be assigned a unique identification number which will be used later in coding and analyzing data. Also, each instructional unit of the institution should be assigned an identification number. For example, 500 might refer to office occupations, 800 to industrial occupations, etc. If further

distinction is required, 510 could refer to accounting, 520 to secretarial, etc. Each job title listed should be cross referenced to an instructional unit by placing the appropriate number in parentheses following the job title.

Typical job title listings might be as follows:

123. accounting clerk (510)
124. legal secretary (520) This numbering and cross referencing will allow for easier analysis and distribution of data at the completion of the project.

The term "training topic" refers to the identifying name of the education or training the institution provides to an individual who is *already employed*.

The purpose of identifying training topics is to provide a listing that will be the basis of Part 3 of the B.I.L. Needs Survey Instrument (see Figure 4). The training topics should *not* include those normally considered a part of pre-employment training, since this portion of the survey deals only with in-service or in-house education needs of employees.

Efforts should be made to include innovative and non-traditional topics in this section. Also, it is assumed that employers will contribute additional topics at the time data is being gathered.

Each training topic listed should be assigned a unique identification number. Also, each topic listed should be followed by a number in parentheses that provides a cross reference to an instructional division, program, or unit.

8. CUSTOMIZE SURVEY INSTRUMENT

The next step in the procedure is to develop a "customized" version of the survey instrument for each previously identified occupational area. The format for the B.I.L. survey instrument has been developed with an attempt to include all necessary information without overwhelming employers by requiring large amounts of difficulty to obtain data. The instrument is divided into three parts (to understand the rationale and basis for the development of these parts, you should review Appendix A, Technical Panel Review Draft). The first part, shown in Figure 2, deals with employee recruitment data. The lines under the heading *"job title"* should be completed by adding job titles identified in number 7. *Only those job titles for which the institution is currently preparing people to enter should be listed in Part I.* A different version of Part Number I should be prepared for each different occupational area identified in Number 4. Each version of the instrument should be identified by placing a number in the designated place in the upper left corner.

The second part of the survey instrument, shown in Figure 3, deals with jobs for which the institution might develop pre-employment training programs if employer needs are substantial. The lines under the heading "job title" must be completed. Typically this listing of job titles will be much shorter than in Part I. There should be *no duplication* of job titles between Parts I and 2. In both sections, space should be provided for the employer to add job titles to the list.

The third part of the survey instrument shown in Figure 4, deals with those special courses and training topics that the institution provides for those *already employed*. Once again, the primary difference between Part 3 and Part I and 2 is that the first two parts deal only with pre-employment training, while Part 3 focuses on in-service training for employees. To complete Part 3, the team should add the list of training topics developed in Section 7 to Part 3 of the instrument.

FIGURE 2

B.I.L. NEEDS SURVEY INSTRUMENT
PART 1 EMPLOYEE RECRUITMENT DATA

Interviewer _____

_____

Date _____

Company _____

Type of Data Collection _____

Instrument Version _____

JOB TITLE	APPROXIMATE NUMBER RECRUITED LAST YEAR	ESTIMATED EMPLOYMENT TREND			NUMBER RECRUITED FROM OUR INSTITUTION	OTHER SOURCES FROM WHICH EMPLOYEES ARE RECRUITED*	COMMENTS
		INCREASING	STABLE	DECREASING			

* CODE FOR OTHER SOURCES FROM WHICH EMPLOYEES ARE RECRUITED: (1) no experience or training, (2) high school graduate, (3) high school graduate with vocational training, (4) other postsecondary institution, (5) B.S. or higher degree, (6) other companies

FIGURE 3

PART 2 – JOBS FOR WHICH EMPLOYEES WOULD BE RECRUITED
IF THE APPROPRIATE TRAINING WERE AVAILABLE (Less than B.S. Degree)

Interviewer _____

_____

Date _____

Company _____

Type of Data Collection _____

Instrument Version _____

JOB TITLE	REQUIRED EDUCATION LEVEL (EST NUMBER OF ANNUAL RECRUITS)			ESTIMATED EMPLOYMENT TREND			COMMENTS
	ASSOCIATE DEGREE	CERTIFICATE (1 YEAR)	SPECIAL COURSE	INCREASING	STABLE	DECREASING	

FIGURE 4

PART 3–EMPLOYEE TRAINING NEEDS

Interviewer _____

_____

Date _____

Company _____

Type of Data Collection _____

Instrument Version _____

TRAINING TOPIC	DESIRED INVOLVEMENT		PREFERRED TIME						
	APPROXIMATE HOURS	APPROXIMATE TOTAL HOURS	AM	NOON	PM	EVENING	SATURDAY	LOCATION PREFERENCE*	COMMENTS

* LOCATION CODE: (1) On Job Site; (2) at Area Facility, (3) On Campus.

During the process of customizing the instrument, it will be tempting to add other "interesting to know" items. If the survey instrument is modified, the computer programs provided elsewhere in this document will no longer be usable. Also, the purpose of this model is to provide a general needs sensing. If an attempt is made to use the system to conduct an occupational analysis, one of two things is sure to happen. Either the results will be too superficial to be useful, or the instrument will grow so complex and burdensome that it will be unmanageable.

9. COORDINATE EMPLOYER LISTS AND INSTRUMENTS

At this point the sub-teams from each area should meet together and review employer lists and customized survey instruments. If different groups have identified the same employer, coordination is required to prevent duplication of effort. Undoubtedly, some of the same job titles or training topics will appear on the different versions of the instrument. When this occurs, the identification numbers must be adjusted so that whenever a particular job title or training topic is used, it is identified with the same numerical code.

10. ASSIGN DATA COLLECTION RESPONSIBILITIES AND DEADLINES

Each team member must have a clear understanding of responsibility. Every employer to be surveyed must be assigned to a specific team member. Realistic deadlines for data collection should be established, and the project coordinator will be responsible for seeing that established deadlines are met. This operation is much like a chain in that any single broken link will cause a failure.

11. DUPLICATE SURVEY INSTRUMENTS

Once the coordination of employer lists and survey instruments is complete, the required number of instruments will be duplicated. It may be desirable to color code the various versions or parts of the instrument for ease in application or later processing.

12/13. COLLECT DATA/CODE DATA

Each team member should be responsible both for collecting and coding data. There are several reasons for this. One is to spread the coding burden out rather than dump the entire load on one unfortunate individual. Another reason is that it will provide the team member with an opportunity to begin to observe general trends and engage in a kind of informal preliminary analysis. Also, it will cause errors in completing the instruments to be minimized. It was discovered in the pilot testing that, in spite of preliminary training and discussion, some team members placed checks where there should have been a number and vice versa. By having the team members involved in coding, this problem will be resolved early.

If it has been decided to use the computer programs supplied in this document for analysis of data, detailed instructions for coding are contained in Appendix B.

14. PROCESS AND ANALYZE DATA

Appendix B provides instructions for coding of data, computer programs (written in SPSS - Statistical Package for the Social Sciences), and typical computer output for analysis of data. If this will not be used, the project coordinator should make arrangements as soon as possible after step Number 9 to arrange for the development of computer programs and coding instructions. It is suggested that preliminary computer runs with dummy data be made, and the computer output be reviewed prior to coding and running the data collected.

15. DISTRIBUTE PROCESSED DATA TO INSTRUCTIONAL UNIT LEADERS

The numerical cross referencing of job titles and training topics with instructional units makes it possible to prepare separate data sets for each unit leader (division director, dean, lead instructor, etc.). Providing this "unit specific" data will increase the impact and effectiveness of the project.

16. MAKE PROGRAMMATIC DECISIONS

At this point, the objectives should be reviewed relative to the data collected and the subsequent analysis. This data will support the decision making process.

C. ASSESSMENT TEAM RESPONSIBILITIES

The following section has been prepared in a format that allows it to be separately reproduced and distributed.

RESPONSIBILITIES OF B.I.L. NEEDS ASSESSMENT TEAM

Introduction

A major goal of your institution is to provide the educational experiences required for individuals to enter and remain in the work force. To effectively achieve this goal, it is necessary to continually monitor the education and training needs of business, industry, and labor (B.I.L.). The B.I.L. needs assessment project you are involved in has been developed as an important step in the process of maintaining the optimum effectiveness of our educational program.

The B.I.L. needs assessment system has three major functions. First, to gather information from employers relative to areas where our institution is currently preparing people for employment. Second, to identify new areas where pre-employment training programs are needed. And third, to identify educational needs of employees already on the job which can be met by our institution.

The role of the B.I.L. Needs Assessment Team is to coordinate the assembling of information which will provide the foundation for institutional decision making. The team has the following specific responsibilities.

B.I.L. Needs Assessment Team Responsibilities

1. Identify the occupational or subdivisions of the study.
2. Identify and list jobs for which the institution is currently preparing individuals to enter.
3. Identify and list jobs for which the institution might prepare individuals to enter if there is a need and if appropriate changes (curriculum, facilities, staff, schedules, etc.) were made.
4. Identify and list topics in which the institution can provide in-service education and training for B.I.L. personnel.
5. Identify and select employers to be surveyed.
6. Customize survey instrument for various employer groups.
7. Collect and code data.
8. Review data summaries and make recommendations for further occupational analysis or program development activities.

D. DATA GATHERING STRATEGIES

There are three basic techniques that can be used to gather data for the B.I.L. Needs Assessment. These are the personal interview, the telephone survey, and the mail survey. All three use the B.I.L. Survey Instrument (see Figures 2, 3, and 4) as a basis for gathering the data. Which technique to be applied will depend on the nature of available resources, type and geographic distribution of employers, and employment patterns for different program areas; however, the personal interview will probably yield the best results.

In the situation, for example, where a small number of large employers absorb the majority of program graduates, the personal interview will be relatively easy to utilize. On the other hand,

when program graduates are spread among a large number of small employers and the employers have few employees, the personal interview may be less feasible and the telephone survey might be most appropriate. The mail survey has been used traditionally to obtain maximum coverage at minimum cost. However, the mail survey frequently eliminates much of the advantage of the B.I.L. needs assessment as a public relations tool.

Any of these techniques, of course, can be used together. For example, a phone interview may precede or follow-up the mail survey. Or, a personal interview may end with a request to complete a survey instrument and return it by mail.

Personal Interview

The personal interview is the most interactive form of data gathering, and provides an excellent opportunity for additional public relation activities on behalf of the institution.

Since asking someone to spend time is the same as asking them to spend money, it is important to plan the interview to be as time efficient as possible. The interviewer should make it clear at the outset that the B.I.L. survey is not a request for help, but that it is a means of determining how the institution can be of maximum help to B.I.L. An appointment for the interview will usually be made in advance by phone. If there is a significant time lapse between making the appointment and conducting the interview, a letter confirming the appointment should be sent.

The B.I.L. Needs Survey Instrument provides the core for the interview. If the list of job titles and training topics is longer than can be easily dealt with in an interview, or if some of the data requested is not immediately available, it may be desirable to use the interview to introduce and explain the survey instrument and leave it either to be picked up later or to be returned by mail.

Telephone Survey

The steps in conducting the Business/Industry/Labor telephone and/or personal interview are essentially the same as those for conducting the mailed questionnaire. Specific procedures should be developed and tested to conduct this part of the assessment.

Training is important before the interviewer can successfully conduct an interview. Each interviewer should receive an orientation to the employer needs assessment, knowledge of interview procedures, and practice in interviewing before usable data can be collected.

The advance practice gives each interviewer an opportunity to evaluate his/her performance. The interviewer can gain insight into handling of the questions, recording interview data and potential problems. Practice will allow performance to become standardized and reach the desired level of objectivity and reliability.

When the call is placed, the interviewer should carefully prepare the respondent. The purpose of the research should be explained with emphasis on how the respondent will benefit from the survey. In addition, the interviewer should be instructed how to refer questions or problems which they cannot answer to persons who can deal with such matters quickly and effectively.

Finally, emphasize that all interviewers must be aware that personnel officers or other business/industry representatives are typically very busy. Therefore, at the scheduled time of the

appointment or call, the interviewer should be prompt and should not waste the respondent's valuable time by conducting an unnecessarily long interview session.

Telephone Survey—Instructions

1. Make sure you have the following tools available: Area telephone directory, Writing material(s), Survey instruments.

2. Organize materials and tools to the best advantage for your work.

3. If the local business does not answer, call the next business on the list. Record all local businesses that do not answer.

4. When the contact person answers, record the name of the person responding and follow the telephone script provided.
5. If there are any difficult questions or problems, refer them to (name) at (name of institution) for assistance. Telephone number . . .- . . . . ext . . .

6. If the contact person is not willing to participate, ask him/her if they would be willing to complete a written survey at their convenience. If Yes, verify the proper name of the business, local address, and zip code.

7. For planning purposes, please mark:
   (a) Who was called during the day
   (b) Who did not answer
   (c) Who agreed to participate
   (d) Who agreed to participate later
   (e) Who did not agree to participate

Telephone Script

(1) Good_____.

(2) My name is _____.
(3) I am calling for the (name of institution).
(4) Is this (employer's name). (If not, ask to speak to the person or identify who you are speaking to.)
(5) The (name of institution) is conducting a survey to determine ways that the college (institution) can most effectively serve the educational needs of local businesses and their employees. Would you be willing to help? It will take approximately ten minutes of your time. (If YES, proceed to the *Introduction*. If NO, ask if they would be willing to complete a written survey at their convenience. We will supply the return postage paid envelope.

Introduction

(6) *The survey is divided into three parts.* The first two parts ask questions about job titles and/or descriptions identified by (name of institution) staff. The third part asks questions dealing with potential employee training needs. Starting with Part I, I would like to read a list of jobs and ask questions concerning each of these jobs.

(7) (first job title).
Note: If the employer questions this title, please explain that more specific titles will be

decided upon in later discussions concerning necessary program and educational offerings.

(8) Approximately how many (job title) did you recruit last year? (If the answer is zero, proceed to the next job title and follow entire sequence (8) through (11).

(9) Do you expect the number of (job title) that your company will hire in the next few years will be increasing, remain stable, or decrease?

(10) Of that number (noted in question #8), how many were from our institution?

(11) Please note which of the following are sources of new employees with this job title: (1) persons with no experience or training, (2) high school graduates with vocational training, (4) graduates from other postsecondary institutions, (5) B.S. or higher degrees, (6) from other companies.

Note: PROCEED THROUGH OTHER JOB TITLES FOLLOWING THE SAME SEQUENCE.

(12) Are there any other job titles that were not mentioned for which you have recruited graduates of our programs? (If YES, repeat same sequence as above.) Record this information in the space provided on the bottom of Part I.

Okay, let's proceed to *Part 2.*

(13) In Part 1, we talked about job titles where (name of institution) is already providing training. In Part 2, I would like to read a list of jobs that our institution might need to provide training and ask questions concerning each of these jobs.

(14) Considering (job title), about how many new employees per year would you recruit from our school with each of the following levels of education: (a) associate degree (2 yrs.), (b) certificate (1 yr.), (c) a special course offering.

(15) Do you expect that the number of (job title) that you will hire in the next few years will Increase, Remain stable, or Decrease?

Note: PROCEED THROUGH OTHER JOB TITLES FOLLOWING THE SAME SEQUENCE.

Part 3.

(16) The third part of the survey asks questions about what type of in-house employee training our institution could help you with. For example: (give several brief examples). I would like to ask you about several possible topics that your employees might be interested in.

(17) Approximately how many of your employees would be interested in (training topic)?

(18) Approximately how many hours per month involvement would be required?

(19) What would be the best time to offer this course? (a) AM, (b) Noon, (c) PM, (d) Evenings, (e) Saturday.

(20) Of the following locations, which one would you prefer? (a) at the job site, (b) at an area facility, (c) at our campus?

Note: PROCEED THROUGH OTHER POSSIBLE TOPICS USING THE SAME SEQUENCE

(21) Are there any other possible offerings you might suggest? (Repeat same sequence. Record at bottom of Part 3.)

Mailed Survey

A common technique used for data gathering is the mailed survey. The B.I.L. Needs Survey Instrument has been designed so that with the addition of a cover letter (a sample cover letter follows this section) it can be used in a mailed survey.

The critical concern with a mailed survey is to obtain a maximum percentage response. Experience has shown that the following can influence the percentage of responses:

* The difficulty of responding.
Providing a "stamped" or "business reply" envelope makes response easier. Also customizing the list of job titles to minimize the length of the list that apply to each company will shorten the instrument and make it appear easier to complete.

* The quality of the presentation.
A smeared blurry instrument that is copy number 200 from a spirit master duplicator will probably generate less response than a sharp, clean off-set press copy on attractive paper. Sloppy presentations frequently result in sloppy responses.

* The degree of impersonality of the request
A "to whom it may concern" letter from "the committee" will probably result in a lesser response than a "Dear Jane Jane-thank you, Fred" letter. A preliminary and/or follow-up phone contact will decrease the impersonality of the request and increase the response.

* Bribes.
Although we might not like to admit it, bribes frequently work. For example, some researchers have included a packet of instant coffee with a message something like "Have a cup of coffee on me! . . . and while you're drinking your coffee, please complete the enclosed survey form." There may be other college-related gimmicks that would increase the response rate. How about tickets to an upcoming college event. Or a pen or pencil stamped with the school name (Everytime they use it, they will feel guilty if they haven't completed the survey).

*Follow-up.
Follow-up either by phone or mail will usually increase the rate of return. A sample cover letter for a mailed survey follows:

LETTERHEAD

Date _____

Name
Address
City, State, Zip

Dear _____ :

An important function of _____(name of institution)_____ is to provide education and training for the Business, Industry, and Labor community. To do so effectively, and thus provide maximum benefits to your organization, we must continually upgrade our information regarding employer/employee education and training needs. We would appreciate it very much if you could supply the necessary information by completing the enclosed survey instrument and return it to us in the stamped envelope by _____(date)_____.

You will notice that the survey form is divided into three parts. The first two parts deal with jobs for which we provide (or might provide) pre-employment training. We realize that the figures you provide are approximations which are subject to change, but aggregated data from a number of employers will help us improve our program offerings in this area. The third part of the survey deals with topics that might be of mutual benefit to you and your employees. We expect this information to enable us to increase our education and training services to your organization. Please feel free to add any titles or topics we may have omitted from our lists.

(Optional Paragraph)

As a token of our appreciation for your assistance, we would like to provide complimentary tickets to (dramatic production, concern, sports event, etc.) which will be held on (date). Please call (contact person, phone number) for further details.

If you have any questions or comments regarding our survey please feel free to call (name, phone number), our project coordinator, for assistance. We expect that the results of this survey will enable us to improve our service to the community. Thank you for your cooperation.

Sincerely,

_____
(signature of chief executive officer)

CEO/pa

MODEL DEVELOPMENT

A. INTRODUCTION

Members of the National Postsecondary Alliance identified a number of priority areas for emphasis and cooperative efforts. One of these priorities was the development of a model that could be applied by an individual institution at the local level to assess the education and training needs of business, industry, and labor. To deal with this priority, ten Postsecondary Alliance members joined forces to provide financial and personnel resources to develop such a model. Staff members of The National Center for Research in Vocational Education provided technical assistance for the project. Three of the ten participating alliance members agreed to serve as pilot test sites for the model. The members participating are shown in Figure 5.

B. SURVEY OF RELATED MATERIALS

The first step in the development of the model was to review available materials to identify those that might be adopted or adapted for use in the model. This review was conducted in June 1980 by National Center staff. It was determined that there was not a great deal of material available that had specific application for postsecondary institutions. A complete discussion of the materials reviewed is contained in Appendix A.

C. PREPARATION OF MODEL DRAFT

After completion of the survey and review of relevant materials a draft document was prepared and submitted to the project Technical Panel. This panel consisted of a representative from each participating institution, and several leaders from business and industry. The business leaders were selected from a list of nominations from the participating institutions.

The Technical Panel Review Draft (see Appendix A) was mailed to the panel members along with a copy of a review draft evaluation form. Panel members were encouraged to direct any questions regarding the draft to National Center staff by telephone, as well as to submit written evaluative comments with the evaluation form.

The comments of the Technical Panel were reviewed and analyzed, and a pilot test version of the model was prepared. A review and discussion of the pilot test was included in the agenda of the National Postsecondary Alliance meeting September 14-17, 1980 at the National Center facilities in Columbus, Ohio.

D. PILOT TESTING

Three of the ten participating institutions agreed to serve as sites for pilot testing the model. These institutions were: Orangeburg-Calhoun Technical College, Orangeburg, South Carolina; Dallas Community College District, Dallas, Texas; and North Central Technical Institute, Wausau, Wisconsin. The original plan was to conduct the pilot tests before the beginning of the fall term. Due to delays in collecting and processing funds from all participating institutions, however, pilot testing was delayed due to institutional commitments to fall term registration, staff development activities, etc. Pilot testing was completed as the three sites during the fall of 1980.

FIGURE 5

NATIONAL POSTSECONDARY ALLIANCE

B.I.L. Project Participants

Institution	Liaison	Technical Panel Member
Caldwell Community College	Dr. Donald P. Altieri Dean of Educational Development Caldwell Community College P.O. Box 600 Lenoir, NC 28645	Mr. Dan B. Wortman Director of Industrial Relations Bernhardt Industries 1839 Morgonton Blvd., SW Lenoir, NC 28645 704/758-9811
Dallas County Community College District (Pilot Test Site)	Mr. Carey Rector Dallas County Community College District 701 Elm Street Dallas, Texas 75202	
Hocking Technical College	Mr. James Patrick Assistant to the President Hocking Technical College Nelsonville, Ohio 45764	
Kalamazoo Valley Community College	Dr. Marilyn J. Schlack Dean of Instruction 6767 West O Avenue Kalamazoo, Michigan 49009	
Linn-Benton Community College	Dr. Robert Adams Vice President for Planning and Development Linn-Benton Community College 6500 S.W. Pacific Blvd. Albany, Oregon 97321	
Milwaukee Area Technical College	Ms. Laura J. Strain Special Assistant to the District Director Milwaukee Area Technical College 1015 North Sixth Street Milwaukee, Wisconsin 53203	
North Central Technical Institute (Pilot Test Site)	Dr. Russell Paulsen Administrator Research, Planning & Development North Central Technical Institute 100 Schofield Avenue Wausau, Wisconsin 54401	
Northern Essex Community College	Dr. Corinne Grise Northern Essex Community College 100 Elliott Street Haverhill, Massachusetts 01830	
Orangeburg-Calhoun Technical College (Pilot Test Site)	Mr. Pat Black Orangeburg-Calhoun Technical College P.O. Drawer 1767 Orangeburg, SC 29115	
Trident Technical College	Ms. Mary Allen Jolley Vice President for Development Trident Technical College P.O. Box 10367 Charleston, SC 29411	Mr. Ed Lieb, Plant Manager AMSTAR Stark Industrial Park Charleston, SC 29405 803/744-1646

1. ORANGEBURG-CALHOUN PILOT TEST

Orangeburg-Calhoun Technical College serves a multi-county area of rural South Carolina. A total of 60 employers provide the majority of job openings in the area. The college is organized into 8 divisions including Continuing Education, and 25 different regular instructional programs are offered.

Staff members from the National Center met with Orangeburg-Calhoun needs assessment team members on September 29-30, 1980 to initiate the Orangeburg pilot test. Several area Postsecondary Alliance institutions sent observers to this two-day workshop. The morning of the first day (see Appendix D for agenda) was devoted to providing the assessment team with an overview of the rationale for the model, and procedures to be followed in conducting the employer survey. During the afternoon of the first day, the Orangeburg team identified major clusters of similar employers (health, industrial, etc.) and developed customized survey instruments for each cluster area. On the morning of the second day, the team went out and conducted interviews with several employers. That afternoon, the group reconvened to share experiences and make any required modifications in technique or strategy.

The interviews of employers continued during the fall term as staff-time was available. Interviews were completed with 48 employers, and survey forms were returned to the National Center for coding and computer analysis in mid-December. Extra copies of the computer printouts were made and returned to Orangeburg for local analysis.

2. DALLAS PILOT TEST

The Dallas Community District serves a population of several million people in the Dallas metropolitan area. Seven separate campuses, each with its own administrative organization, are coordinated through a central district office. The area contains over 50,000 major employers.

The Dallas pilot test was initiated by National Center staff on October 8-9, 1980. The Occupational Deans from each of the seven campuses met on October 9 and were provided with an overview of the project. It was determined that a combination of a mailed survey and interviews with a selected sampling of employers would be most appropriate. The Occupational Deans reviewed a computer printout of Dallas area employers, and each accepted responsibility for conducting interviews in their immediate geographical area. The mailed survey was coordinated at the central district office and was distributed to approximately 4000 area employers. About 100 of the mailed survey instruments were returned which when combined with interview data provided a total of 235 employer responses.

Since the Dallas Community College District has a large computer with access to the Statistical Package for the Social Sciences (SPSS) program and a computer terminal, which could be used for program and data entry in the central district office, it was decided to use this facility to process employer responses for analysis. A preliminary computer printout, containing data from employer interviews, was sent to the National Center for review in early November.

3. WAUSAU PILOT TEST

North Central Technical Institute is located in Wausau, Wisconsin and serves a combination of a mid-sized urban and rural population. It has about three dozen regular associate degree programs along with an extensive community outreach program.

The pilot test was initiated on October 22-23, 1980, in meetings with the National Center staff. It was decided to use outreach program coordinators for the needs assessment team because of their strong contacts with area employers. The team met on October 22 and was provided with an overview of the project and guidelines and procedures for conducting employer interviews. The team identified several local employers for trial interviews and scheduled them for the morning of October 23. After these interviews were completed, the team met again October 23 to compare notes and to finalize the data collection plan.

Because of local information needs, the survey instrument format was adjusted to add additional items of local interest. The order of the instrument sections was also adjusted to fit local procedures and interviewer style. These changes resulted in the need to make modifications in the computer programs used to analyze the data.

Copies of completed survey instruments from 45 employer interviews, along with a deck of computer cards onto which survey data had been punched, were received at the National Center in late December. The data cards from one part of the survey had to be repunched due to variations in card punch/reader alignment. The responses were processed at The Ohio State University computer center and computer printouts were returned to Wausau for local analysis.

APPENDIX A

TECHNICAL PANEL REVIEW DRAFT

A MODEL PACKAGE TO ASSESS THE EDUCATION AND TRAINING NEEDS OF BUSINESS, INDUSTRY AND LABOR

TECHNICAL PANEL REVIEW DRAFT
June 1980

A Project of the
NATIONAL POSTSECONDARY ALLIANCE

Prepared By

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Introduction

A major goal of postsecondary institutions (community colleges, technical colleges, and technical institutes) is that of providing the educational experience required for individuals to enter and remain in the labor force. To effectively achieve this goal, it is necessary to work closely with Business, Industry, and Labor (B.I.L.) to continually monitor employee education and training needs.

The primary objective of this project is the development of a model to assess the education and training needs of business, industry, and labor.

Background Information

A survey was made of recent literature pertaining to needs assessment, manpower training needs, occupational training needs, and other related topics. This survey provided a background for the development of the B.I.L. needs assessment model. Appnedix A lists the publications reviewed. The publications reviewed included general reviews of needs assessment techniques, e.g., Witkin, Adams, and Ahmann; suggested methodologies for needs assessments, e.g., Fishkind, Atteberry, Russell, Alvir, Busha, Tucker, and Cinkel; and reports of needs assessment projects, e.g., Bordini, Koch, Gray, and American Management Resources, Inc. Many of the needs assessments reported in the literature focus on general public school needs including students', teachers', parents' perceptions of needs. Many of the methodologies related to projecting labor market trends have generally been developed for state-wide planning purposes. Relatively little was found that focused on Business, Industry, and Labor needs to be addressed by postsecondary institutions.

There are two general approaches to determining labor market trends. One is to use existing data as gathered by State Employment Security departments or other sources of labor market statistics. The other is to survey employers directly requesting information about numbers of employees, turnover rates, future projections, etc. In either case, the resultant "job openings" data are compared with vocational program enrollment data to determine if the proper balance between supply and demand exists.

In a study which focused on vocational and technical training needs in the Jacksonville, Florida area, Fishkind (1976) compares the results of the two types of studies applied to the same county for the same time period. One of these studies (by Tucker & Rowell) used existing labor market data, while the other (by McFarland) surveyed employers directly. Fishkind compares projected net jobs from both studies in several program areas as follows:

Projection of Job Openings 1974-75

OCCUPATION	TUCKER & ROWELL	McFARLAND
Stenographers and Typists	239	1,835
Cierical	231	7,732
Welders	94	2,059
Mechanics	206	2,284

Fishkind notes that in general, labor market surveys tend to underestimate, while employer surveys tend to overestimate job openings. He also points out some weaknesses in each type of projection. Independently of the question of the accuracy of the data, it would seem that job opening projection information alone is inadequate for specific postsecondary program planning.

Several reports and studies utilize survey instruments to be distributed to Business, Industry, and Labor which solicit comprehensive data such as: number of full- and part-time employees, projected openings each year for the next five years, turnover rates for the last two years, beginning salary ranges, degree of in-house training, title of person filling out forms, etc. (see Cinkel, Koch, and Fishkind for examples). The data from these instruments is typically reported in the aggregate. One difficulty in assembling and using employer needs data noted by a number of authors is the fact that this data is recorded or arranged by the Dictionary of Occupational Titles (DOT), United States Office of Education (USOE), or Standard Industrial Code (SIC) numbering systems and job titles, depending on the source of data. The data must be translated into local program descriptors to be applied.

Let us examine the possible application of data provided by the typical labor needs assessment to a postsecondary setting. If a community or technical college administrator knows, for example, that there are 1200 openings in the region for welders, what then? Clearly, more information is needed before decisions can be made to continue, expand, or reduce the institution's welding program. Let us add information that shows 800 students are currently enrolled in postsecondary welding programs. Now we can see that there is a difference of 400 between the supply and demand and there appears to be a need to increase the supply by either recruiting more students into existing programs or by adding a new welding program. But unfortunately, it's not that easy. How many of the 1200 openings require postsecondary training as opposed to openings that require no training, are only open to experienced welders, or require a bachelor of technology degree? Therefore, we must add entry-level education requirements to our labor market data. Now let's say that of the 1200 openings, 600 require postsecondary training. Since there are 800 students enrolled, it seems that there is an over-supply. Well, not necessarily. It may be that 200 of those students are already working full-time as welders and are enrolled for upgrading rather than training for new positions. So, we need to add more data on the labor supply side of the equation we're trying to balance.

Now suppose that after assessing student interest and intentions, we discover that there are 600 students enrolled in welding whose intentions are to seek employment upon completion of their studies, and there are 600 openings in welding. Although the supply/demand equation appears balanced, it is possible that local industrial expansion (or contraction) could quickly alter the balance. Also, the introduction of robotic mechanical welding machines could influence training needs in the immediate future. There is another complicating factor. Suppose 600 openings exist and 600 students are enrolled. What if students are being trained to do submerged arc welding, but local companies are hiring gas welders, or TIG, or MIG, or automated wire feed, or electron beam machine operators? If the reader is not yet overwhelmed, multiply the amount of data required to make decisions about welding by the hundreds of different job openings in any particular region. None of the studies or publications reviewed appear to supply data with the specific detail required for postsecondary decision making.

Of the needs assessment models and methodologies reviewed, many simply specify the nature of the data required and note possible sources of this data. Some models provide instruments with long lists of job titles from the DOT or USOE program codes and request information from the business community such as: number of employees, turnover rate, education requirements, employment projection by year, etc. This information is frequently reported in a large matrix of job titles, employment projection, etc. and left for the user to

decipher and apply. In some instances it is aggregated and reported in general categories such as "industrial occupations" or "health related." Where reported, the percentage of responses to these instruments from the business community is usually quite low (less than 30 percent).

The most sophisticated approaches to needs assessment reviewed attempt to include all aspects of regional economic forecasts, labor market trends, and labor supply information in a complete matrix and apply statistical techniques such as multiple regression to analyze and synthesize the data. Although these methods may be appropriate for a state or regional study with significant resources and expertise, they may be difficult for an individual postsecondary institution to apply. They also may not provide the type of information required for specific decision making at the postsecondary program level.

Most needs assessment models have focused on entry level job openings. However, postsecondary institutions provide education programs for employees and employers through non-traditional short-term, in-house or in-service training. Information necessary for planning these programs is increasingly important to postsecondary administrators. None of the methodologies or models reviewed included significant attention to this area.

It is our conclusion from reviewing the literature that, although various components from several needs assessment models have application and are included in the proposed model, no currently existing model has specific application to assessing the education and training needs of business, industry, and labor to be served by postsecondary institutions.

Rationale for Proposed Model

Rather than start with a global list of employment opportunities, target population, and economic factors and sift through the data to identify ways to articulate business, industry, and labor with postsecondary institutions, it might be reasonable to start with specific employer needs that can be met by postsecondary institutions and work up to programmatic decisions from there.

A humorist once pointed out that people can be classified into two groups—those that classify people into two groups, and those that don't. Although this might be a silly classification, classifying things into two groups can provide a logical basis for development. For example, postsecondary institutions have two types of programs—those that are designed to prepare individuals for employment, and those that are not. If they do not, we shouldn't bother them for any more information. If they do, they either recruit from our postsecondary program, or they do not. If they do, we need to know if the training was satisfactory. If they do not, and if we think they should, we need to learn something about the reasons for this. Some possible reasons are other recruiting sources, lack of communication about our program, poor program reputation, etc. Some basic questions related to our programs that prepare individuals for employment that should be addressed by a B.I.L. needs assessment model are:

1. Do employers recruit employees for jobs for which the postsecondary institution is preparing people to enter?

   a. Do they recruit from our program?

   b. Which employers?

c. Which jobs?

d. What is the employment trend?

We have classified postsecondary programs into two types and discussed those that prepare individuals for employment. Before we discuss the second type, let's look at jobs. There are two types of job openings—those for which postsecondary education is desirable, and those for which it is not. The second type is of no concern, however, there are two types of job openings for which postsecondary education *is* desirable—those for which we already have programs, and those for which we do not. We have already dealt with the former, but the second type leads to the following questions:

2. Would employers recruit employees from our institution in new program areas if they were added?

   a. How many per year?

   b. For which jobs?

   c. What level of education would be required?

   d. What is the employment trend?

Now let us classify people into two types—those who are not employed, but would like to be, and those who are already employed. The needs of those not employed that can gain employment through postsecondary programs will be met either by existing programs, and answers to questions under number one above, or through identification of new programs, and answers to questions under number two above. There are, however, needs of those already employed that can be met by the postsecondary institution. This is the group, by the way, that seems to get missed by most of the published needs assessment models. By posing questions relative to this group, we will also be dealing with the second type of programs, those not leading to employment, that we classified earlier. Here are some questions that the B.I.L. model should address in this are:

3. Are there employee education needs that can be met by postsecondary offerings?

   a. What educational topics are needed?

   b. What is the current vs. desired employee involvement?

   c. How much time should the education program take?

   d. When and where should the education take place?

Assuming that the B.I.L. needs assessment model should be concerned with people, job openings, and programs, the model will be useful if it provides information that will help answer the questions raised above. Other assumptions on which the model should be based are: that labor market data must be as fresh as possible, it is of relatively little value to gather data on job openings for which employers are unlikely to recruit employees from the postsecondary instituion, and data must be gathered that will help assess B.I.L. needs other than in the area of pre-employment training.

Although specific information regarding particular occupational emphasis is required for postsecondary planning (i.e., should the welding program focus on arc, gas, MIG, or TIG), it must first be determined if there is a need for a postsecondary program at all. The model should address the more general question of program need and identification of probable employers. Once a decision has been made to add, expand, or upgrade a specific program, then the B.I.L. needs assessment model should be followed by application of traditional occupational or task analysis techniques. The needs assessment model will focus exclusively on employer education and training needs. It should be noted that although student interest surveys, community needs assessments, teacher/counselor staff perceptions, evaluation of advisory committee activities, etc. are important considerations in postsecondary planning, they are outside the scope of this model.

Proposed Model Segments

The following segments are suggested for inclusion in the B.I.L. Needs assessment model.

1. Guidelines and procedures for selecting and training a local B.I.L. needs assessment team
2. Data gathering instrument
3. Employer sampling strategy
4. Statistical analysis package (computer program)
5. Data review procedures

Proposed Data Gathering Instrument

Based on the discussion in the section "Rationale for Proposed Model," the following information will be solicited through the data gathering instrument:

1. Whether or not an employer recruits employees in a particular occupational area
2. How many employees are recruited from the postsecondary institution
3. Performance level of postsecondary graduates recruited
4. Other sources of employee recruiting (high school programs, experienced personnel, non-experienced personnel)
5. Employment trends as perceived by employer
6. Identification of jobs for which there currently is no training program at the postsecondary institution, but for which employees indicate a pre-employment training need
7. Education level required for jobs identified in number six
8. Employment trends for jobs identified in number six
9. Employee training needs that can be addressed by the postsecondary institution
10. Numbers of employees potentially involved in topics identified in number nine

11. Amount of employee time to be spent on topics identified in number nine

12. Information regarding preferree scheduling of postsecondary offerings (time and location)

To gather the above information, a three part draft instrument has been prepared and follows:

APPENDIX B

COMPUTER CODING REQUIREMENTS AND PROGRAM LISTINGS

1. CODING INSTRUCTIONS

Figure 6 shows Part 1 of a sample completed survey instrument. Figure 7 shows how the instrument in Figure 6 would be coded onto a standard 80 column coding sheet (not all 80 columns are used). Each line on the coding form represents one line on the instrument. Column assignments for data use are as follows:

COLUMNS	INSTRUMENT ITEM
1 – 4	Company identification number
5 – 8	Job title
9 – 11	Instructional unit identification number
12 – 14	Approximate number recruited last year
15	Estimated employment trend
16 – 18	Number recruited from our institution
19	No experience or training
20	High school graduate
21	High school graduate with vocational training
22	Other postsecondary institution
23	B.S. or higher degree
24	Other companies
25	Type of data collection

FIGURE 6

SAMPLE SURVEY INSTRUMENT

B.I.L. NEEDS SURVEY INSTRUMENT
PART 1 EMPLOYEE RECRUITMENT DATA

Interviewer FALO

Date 10-4-84

Company ACECO (0235)

Type of Data Collection interview (1)

Instrument Version 13

JOB TITLE	APPROXIMATE NUMBER RECRUITED LAST YEAR	ESTIMATED EMPLOYMENT TREND: INCREASING	ESTIMATED EMPLOYMENT TREND: STABLE	ESTIMATED EMPLOYMENT TREND: DECREASING	NUMBER RECRUITED FROM OUR INSTITUTION	OTHER SOURCES FROM WHICH EMPLOYEES ARE RECRUITED*	COMMENTS
101 WIDGET DESIGNER (200)	5	✓			3	5,6	
102 WIDGET FIXER (200)	0						
103 WIDGET MAKER (300)	15			✓	2	1,2	

* CODE FOR OTHER SOURCES FROM WHICH EMPLOYEES ARE RECRUITED: (1) no experience or training, (2) high school graduate, (3) high school graduate with vocational training, (4) other postsecondary institution, (5) B.S. or higher degree, (6) other companies.

FIGURE 7

SAMPLE CODING FORM FOR THE
INSTRUMENT SHOWN IN FIGURE 6

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	2	3	5	0	1	0	1	2	0	0	0	0	5	1	0	0	3					1	1																						
0	2	3	5	0	1	0	2	2	0	0	0	0	0																																
0	2	3	5	0	1	0	3	3	0	0	0	1	5	3	0	0	2	1	1																										

Figure 8 shows part 2 of a sample survey instrument. Figure 9 shows how the instrument shown in Figure 8 would be coded. Column assignments for part 2 data are as follows:

COLUMNS	INSTRUMENT ITEM
1 – 4	Company identification number
5 – 8	Job title
9 – 11	Instructional unit identification number
12 – 14	Associate degree
15 – 17	Certificate
18 – 20	Special course
21	Estimated employment trend
22	Type of data collection

FIGURE 8

SAMPLE SURVEY INSTRUMENT

PART 2 – JOBS FOR WHICH EMPLOYEES WOULD BE RECRUITED
IF THE APPROPRIATE TRAINING WERE AVAILABLE (Less than B.S. Degree)

Interviewer FRED

Date 10-4-84

Company ACECO (0235)

Type of Data Collection interview (1)

Instrument Version 13

JOB TITLE	REQUIRED EDUCATION LEVEL (EST. NUMBER OF ANNUAL RECRUITS)			ESTIMATED EMPLOYMENT TREND			COMMENTS
	ASSOCIATE DEGREE	CERTIFICATE (1 YEAR)	SPECIAL COURSE	INCREASING	STABLE	DECREASING	
104 LASER WIDGET OPERATOR (300)	25	15		✓			
105 OPTICS TECH. (200)	0	121	0		✓		

FIGURE 9

SAMPLE CODING FORM FOR THE
INSTRUMENT SHOWN IN FIGURE 8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	2	3	5	0	1	0	4	3	0	0	0	2	5	0	1	6				1	1																							
0	2	3	5	0	1	0	5	2	0	0	0	0	0	1	2	1	0	0	0	2	1																							

Figure 10 shows part 3 of a sample survey instrument. Figure 11 shows the coding for this instrument. Column assisgnments for part 3 are as follows:

COLUMNS	INSTRUMENT ITEM
1 – 4	Company identification number
5 – 7	Training topic
8 – 10	Instructional unit identification number
11 – 13	Appropriate number
14 – 15	Approximate total hours
16	AM
17	Noon
18	PM
19	Evening
20	Saturday
21	Location preference
22	Type of data collection

17

FIGURE 10

PART 3–EMPLOYEE TRAINING NEEDS

Interviewer FRED

Date 10-4-84

Company ACECO (0235)

Type of Data Collection interview (1)

Instrument Version 13

TRAINING TOPIC	DESIRED INVOLVEMENT: APPROXIMATE HOURS	DESIRED INVOLVEMENT: APPROXIMATE TOTAL HOURS	PREFERRED TIME: AM	PREFERRED TIME: NOON	PREFERRED TIME: PM	PREFERRED TIME: EVENING	PREFERRED TIME: SATURDAY	LOCATION PREFERENCE*	COMMENTS
328 CONVERSATIONAL SPANISH (800)	28	4		✓				2	
415 APPLIED WIDGETRY (300)	17	15	✓					1	
416 WIDGET THEORY (200)	36	10				✓		3	

* LOCATION CODE: (1) On Job Site; (2) at Area Facility, (3) On Campus.

FIGURE 11

SAMPLE CODING FORM FOR THE INSTRUMENT SHOWN IN FIGURE 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
0	2	3	5	3	2	8	8	0	0	0	2	8	0	4		1				2	1																							
0	2	3	5	4	1	5	3	0	0	0	1	7	1	5	1					1	1																							
0	2	3	5	4	1	6	2	0	0	0	3	6	1	0				1		3	1																							

2. TIPS FOR READING SPSS OUTPUT FOR THE B.I.L. PROJECT

The SPSS (Statistical Package for the Social Sciences programming language contains labeling capabilities that allow the output to be interpreted fairly easily. Following are a few tips to aid in reading SPSS output.

1. VARIABLES and VARIABLE LABELS

The key to all statistical manipulations in SPSS is to identify variables. Each item on the original survey instrument will be called a VARIABLE and be assigned a VARIABLE NAME. Since variable names are limited to 8 or fewer characters, a VARIABLE LABEL of up to 40 characters is created to further identify the variable. All SPSS calculations are done by specifying the variable name and the statistical method to be used.

2. VALUES AND VALUE LABELS

Each variable will take on one or more VALUES. The value is the numerical information associated with a variable. For example, the variable TRTOPIC (the label for this variable name is "Training Topic") has as many different values as there are training topics on our list. When the value of TRTOPIC is 2, the response (or training topic) was "hydraulics." When the value is II3, the response was "office skill," etc. The values and associated labels appear on the SPSS output for each statistical procedure.

3. DOCUMENTATION

A master listing of VARIABLES, VARIABLE LABELS, VALUES, AND VALUE LABELS has been provided in the section tabbed "Documentation." This list helps identify all variables and values that appear in the SPSS program.

4. FREQUENCIES

The FREQUENCIES program is SPSS provides reporting of total responses and percentages for each variable. This is not an important output for the B.I.L. analysis, but does provide an opportunity to check out responses item by item and check for possible "strange" coding. Figure I2 shows part of a frequency table. "Absolute freq." refers here to the number of times each training topic was noted. "Relative freq." is the percentage of all cases on file, and "Adjusted freq." is the percentage of those that actually responded to this item. If there is no response to an item, it was left blank on the survey instrument and is identified as "missing" on the SPSS output. "Cum. freq." is a cumulative total of the "Adjusted freq." column, and only has meaning when the items are listed in a meaningful order.

In Figure 12 it can be seen that "hydraulics" was noted 4 times which is 1.9% (4 = 207 x 100) rounds off to 1.9%.

5. BREAKDOWN

The BREAKDOWN subprogram provides a very useful output for our B.I.L. project. Figure 13 shows the variable DESINVNO (number of people) broken down by training topic and company. The mean, standard deviation, and variance are automatically included in all breakdown tables, but have no application in this example. The columns marked "SUM" and "N" are important, however.

First of all in Figure I3, we can see that the total of all training topics of 1,8I7 (see "For Entire Population" - "SUM"). If we focus on a particular topic, for example "time management," we see the possibility of the involvement of 49 people, and how this total is distributed between the four companies that expressed interest in this training topic.

6. CROSSTABS

The CROSSTABS subprogram allows us to compare any two variables and to determine the number of common responses, the row percentage, the column percentage, and the total percentage. In Figure I4 a crosstabulation of "Training Topic" with "preferred time." All training topics are listed down the left side of the table and the preferred times across the top. Each cell in the table contains the four numbers mentioned above. The upper left corner of the table shows the relative position of each number in the cell.

If we select the topic "Cust. relations" we can see that 2 respondents preferred AM, I PM, and 3 EVENING. Also, the row percentage shows us that 50% of those interested in "Cust. relations" preferred EVENING, and that this represents 2.7% of all those that preferred EVENING. Because there are a large number of training topics listed, this table extends for I5 pages of printout. By checking column totals we can see that of the I74 responding, 64.9% or II3, would prefer EVENING and only 0.6% (I) selected SATURDAY.

As you review the examples shown, notice that all output was generated by reference to VARIABLES, and that similar tables can be produced for any other survey item simply by substituting the desired variable name and rerunning the program. Also, any standard mathematical expression may be used to combine or modify existing variables into new variables, which can in turn be treated with any of the methods discussed.

3. SPSS PROGRAM LISTING

Figures I5, I6, and I7 show the SPSS program listings for the three parts of the survey instrument. It will be necessary to make several modifications to adapt the program for each application. The RUN NAME line must be changed to reflect local application. The VALUE LABELS for program-identification, company name, job title, and training topic will be different for each institution.

If separate output is to be produced for each instructional unit as in Figure I6, the *SELECT IF instructions must be modified to reflect local program identification numbers.

FIGURE 12

ORANGEBURG PILOT TEST PART #3 04/01/81 PAGE 11

TRANSPACE REQUIRED.. 1600 BYTES
16 TRANSFORMATIONS
0 RECODE VALUES + LAG VARIABLES
70 IF/COMPUTE OPERATIONS

TRTOPIC TRAINING TOPIC

Variable Name

Variable Label

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
TR TRAILER OPER	5.	22	5.6	5.6	5.6
CERT WELDER	10.	3	0.8	0.8	6.3
SHIPPING CLERK	15.	15	3.8	3.8	10.1
SAW OPER	20.	2	0.5	0.5	10.6
SUPER.TRAIN.	25.	18	4.5	4.5	15.2
MGMT. TRAIN	30.	36	9.1	9.1	24.2
BASIC ELECT	35.	24	6.1	6.1	30.3
SURVEYING	40.	2	0.5	0.5	30.8
RESEEDING	45.	2	0.5	0.5	31.3
FOREST MGMT	50.	3	0.8	0.8	32.1
E.M.T.	55.	11	2.8	2.8	34.8
C.P.R.	60.	12	3.0	3.0	37.9
TRUCK DRIVER	526.	1	0.3	0.3	98.7
REAL ESTATE	527.	1	0.3	0.3	99.0
PHONE TECQ	528.	1	0.3	0.3	99.2
SHORT ACCNT COURSE	529.	1	0.3	0.3	99.5
LT MASON-WOOD-	530.	1	0.3	0.3	99.7
LT CARPENTRY	531.	1	0.3	0.3	100.0
	TOTAL	396	100.0	100.0	

Value Label

Value

VALID CASES 396 MISSING CASES 0

41

47

FIGURE 13

ORANGEBURG PILOT TEST PART #3 — 04/01/81 — PAGE
TRAINING TOPIC BREAKDOWN
FILE NONAME (CREATION DATE = 04/01/81)

DESCRIPTION OF SUBPOPULATIONS

CRITERION VARIABLE DESINVNO — ESTIMATED ENROLLMENT
BROKEN DOWN BY TRTOPIC — TRAINING TOPIC
BY COMPID03 — COMPANY IDENTIFICATION NUMBER

VARIABLE	CODE	VALUE LABEL	SUM	MEAN	STD DEV
FOR ENTIRE POPULATION			1634.0000	8.0098	14.6892
TRTOPIC	5.	TR TRAILER OPER	13.0000	3.2500	2.6300
COMPID03	60.	PALMETTO BAKING	1.0000	1.0000	0.0
COMPID03	155.	DEAN-DEMPSEY LUM	5.0000	5.0000	0.0
COMPID03	265.	VP KAISER LUM	1.0000	1.0000	0.0
COMPID03	300.	TALLEY-CORBET BOX	6.0000	6.0000	0.0
TRTOPIC	10.	CERT WELDER	5.0000	2.5000	0.7071
COMPID03	145.	CHAMP INT CORP	2.0000	2.0000	0.0
COMPID03	300.	TALLEY-CORBET BOX	3.0000	3.0000	0.0
TRTOPIC	15.	SHIPPING CLERK	9.0000	1.5000	1.2247
COMPID03	55.	PACIFIC FASHIONS	4.0000	4.0000	0.0
COMPID03	170.	FARMERS CONCRETE	2.0000	2.0000	0.0
COMPID03	175.	FIRST NAT BANK	10.0000	10.0000	0.0
COMPID03	205.	CLECKLEY MCGEE	6.0000	6.0000	0.0
COMPID03	250.	COASTAL INTL	6.0000	6.0000	0.0
COMPID03	255.	COBURG DAIRY	3.0000	3.0000	0.0
COMPID03	265.	VP KAISER LUM	1.0000	1.0000	0.0
COMPID03	270.	KIRSCH WINDOW	1.0000	1.0000	0.0
COMPID03	290.	ESSEX GROUP	1.0000	1.0000	0.0
TRTOPIC	35.	BASIC ELECT	41.0000	3.7273	2.5726
COMPID03	25.	JEANSVILLE	1.0000	1.0000	0.0
COMPID03	35.	MAYER,ROTHKOPF	5.0000	5.0000	0.0
COMPID03	55.	PACIFIC FASHIONS	1.0000	1.0000	0.0
COMPID03	70.	ROPER LAWN PROD	3.0000	3.0000	0.0
COMPID03	75.	ROTRON INC	5.0000	5.0000	0.0
COMPID03	95.	TEEPAK INC	1.0000	1.0000	0.0
COMPID03	165.	ETHYL CORP	4.0000	4.0000	0.0
COMPID03	170.	FARMERS CONCRETE	3.0000	3.0000	0.0
COMPID03	180.	GREENWOOD MILLS	10.0000	10.0000	0.0
COMPID03	185.	GN.MILL ORGB PL.	4.0000	4.0000	0.0
COMPID03	210.	LAKE ELECTRIC	4.0000	4.0000	0.0
TRTOPIC	40.	SURVEYING	1.0000	1.0000	0.0
COMPID03	265.	VP KAISER LUM	1.0000	1.0000	0.0
TRTOPIC	50.	FOREST MGMT	3.0000	1.5000	0.7071
COMPID03	265.	VP KAISER LUM	1.0000	1.0000	0.0
COMPID03	300.	TALLEY-CORBET BOX	2.0000	2.0000	0.0
TRTOPIC	55.	E.M.I.	21.0000	2.6250	1.8468
COMPID03	35.	MAYER,ROTHKOPF	5.0000	5.0000	0.0
COMPID03	70.	ROPER LAWN PROD	1.0000	1.0000	0.0
COMPID03	95.	TEEPAK INC	3.0000	3.0000	0.0
COMPID03	100.	STARFLO CORP	5.0000	5.0000	0.0
COMPID03	120.	AM KOYO	1.0000	1.0000	0.0

FIGURE 14

ORANGEBURG PILOT TEST PART #3 04/01/81 PAGE 40
TRAINING TOPIC BY PREFERRED TIME
FILE NONAME (CREATION DATE = 04/01/81)

* CROSSTABULATION OF * * * * * * * * * * * * * * *
TRTOPIC TRAINING TOPIC BY PREFTIME PREFERRED TIME
* PAGE 1 OF 10

TRTOPIC	PREFTIME	AM 0.	AM 1.	NOON 2.	PM 3.	EVENING 4.	SATURDAY 5.	ROW TOTAL
5. TR TRAILER OPER	COUNT	17	1	0	3	1	0	22
	ROW PCT	77.3	4.5	0.0	13.6	4.5	0.0	5.6
	COL PCT	8.5	3.7	0.0	4.5	1.0	0.0	
	TOT PCT	4.3	0.3	0.0	0.8	0.3	0.0	
10. CERT WELDER	COUNT	1	0	0	1	1	0	3
	ROW PCT	33.3	0.0	0.0	33.3	33.3	0.0	0.8
	COL PCT	0.5	0.0	0.0	1.5	1.0	0.0	
	TOT PCT	0.3	0.0	0.0	0.3	0.3	0.0	
15. SHIPPING CLERK	COUNT	9	2	0	1	3	0	15
	ROW PCT	60.0	13.3	0.0	6.7	20.0	0.0	3.8
	COL PCT	4.5	7.4	0.0	1.5	3.0	0.0	
	TOT PCT	2.3	0.5	0.0	0.3	0.8	0.0	
20. SAW OPER	COUNT	0	0	0	1	1	0	2
	ROW PCT	0.0	0.0	0.0	50.0	50.0	0.0	0.5
	COL PCT	0.0	0.0	0.0	1.5	1.0	0.0	
	TOT PCT	0.0	0.0	0.0	0.3	0.3	0.0	
25. SUPER.TRAIN.	COUNT	9	2	0	2	5	0	18
	ROW PCT	50.0	11.1	0.0	11.1	27.8	0.0	4.5
	COL PCT	4.5	7.4	0.0	3.0	5.1	0.0	
	TOT PCT	2.3	0.5	0.0	0.5	1.3	0.0	
30. MGMT. TRAIN	COUNT	16	5	0	5	10	0	36
	ROW PCT	44.4	13.9	0.0	13.9	27.8	0.0	9.1
	COL PCT	8.0	18.5	0.0	7.5	10.1	0.0	
	TOT PCT	4.0	1.3	0.0	1.3	2.5	0.0	
529. SHORT ACCNT COUR	COUNT	0	0	0	0	1	0	1
	ROW PCT	0.0	0.0	0.0	0.0	100.0	0.0	0.3
	COL PCT	0.0	0.0	0.0	0.0	1.0	0.0	
	TOT PCT	0.0	0.0	0.0	0.0	0.3	0.0	
530. LT MASON-WOOD	COUNT	0	0	0	0	1	0	1
	ROW PCT	0.0	0.0	0.0	0.0	100.0	0.0	0.3
	COL PCT	0.0	0.0	0.0	0.0	1.0	0.0	
	TOT PCT	0.0	0.0	0.0	0.0	0.3	0.0	
531. LT CARPENTRY	COUNT	0	0	0	0	1	0	1
	ROW PCT	0.0	0.0	0.0	0.0	100.0	0.0	0.3
	COL PCT	0.0	0.0	0.0	0.0	1.0	0.0	
	TOT PCT	0.0	0.0	0.0	0.0	0.3	0.0	
COLUMN TOTAL		200	27	1	67	99	2	396
		50.5	6.8	0.3	16.9	25.0	0.5	100.0

From different pages of the printout

FIGURE 15

```
RUN NAME        ORANGEBURG PILOT TEST PART #1
VARIABLE LIST   COMPID,JOBTITLE,PROGID,RECRUITS,EMPTREND,RECINST,
                OTHREC1 TO OTHREC6,TYPE
INPUT FORMAT    FIXED(2F4.0,2F3.0,F1.0,F3.0,7F1.0)
INPUT MEDIUM    CARD
N OF CASES      UNKNOWN
MISSING VALUES ALL(0)
COMMENT
COMMENT         THIS COMPUTES THE PERCENTAGE OF RECRUITS THE EMPLOYER ESTIMATES
COMMENT         THEY RECRUIT FROM OUR INSTITUTION.
COMMENT
COMPUTE         MKTSHARE=RECINST/RECRUITS*100
COMMENT         NREC1 EQUALS 1 WHEN AN EMPLOYER ESTIMATES 20 OR MORE WERE
COMMENT         RECRUITED LAST YEAR IN THIS JOB TITLE, AND EQUALS 2 WHEN LESS
COMMENT         THAN 20 WERE RECRUITED.
IF              (RECRUITS GE 20)NREC1=1
IF              (RECRUITS LT 20)NREC1=2
MISSING VALUES ALL(0)
VAR LABELS      COMPID,COMPANY IDENTIFICATION NUMBER/
                PROGID,INSTRUCTIONAL PROGRAM IDENTIFICATION/
                RECRUITS,NUMBER RECRUITED LAST YEAR/
                EMPTREND,ESTIMATED EMPLOYMENT TREND/
                RECINST,NO. RECRUITED FROM THIS INSTITUTION/
                OTHREC1,RECRUIT WITH NO TRAINING/
                OTHREC2,RECRUIT FROM H.S./
                OTHREC3,RECRUIT FROM H.S. VOC. ED. PROGRAMS/
                OTHREC4,RECRUIT FROM OTHER POST-SEC. PROGRAMS/
                OTHREC5,RECRUIT WITH BS OR HIGHER DEGREE/
                OTHREC6,RECRUIT FROM OTHER COMPANIES/
                TYPE,SOURCE OF DATA/
VALUE LABELS    EMPTREND(1)INCREASING (2)STABLE (3)DECREASING/
                OTHREC1 TO OTHREC6 (0)NO (1)YES/
                PROGID (1050)AG (1101)CJ (1150)MET (1200)EGT (1250)EIT (2050)ACR
                (2100)AUTO MECH (2150)BOILERMKG (2200)DIESEL (2250)IND ELECT
                (2300)MACH SHOP (2350)TOOL & DIE (2400)MAINT. MECH. (2450)MATCHMKG.
                (2500)WELDING (3050)MLT (3100)NDA (3150)LPN (3200)RAD. TECH.
                (3250)RESP. TECH (4050)ACCTN. (4100)DATA PROC (4150)GEN.BUS.
                (4200)MARKETING (4250)SEC.SCI. (4300)GEN. OFFICE (5000)EXTENSION/
                COMPID (00005)HOLLY HILL LUM (00103)HOLLY HILL LUM (00155)HORNE MOT.
                (00200)JW PICKENS (00253)JEANSVILLE (00300)JASTA MFG
                (00358)MAYER,ROTHKOPF (00400)ORANGEBURG GARMENT
                (00453)RSG. HOSPITAL (00503)COKE BOTTLING (00558)PACIFIC FASHIONS
                (00608)PALMETTO BAKING (00653)METHODIST HOME (00703)ROPER LAWN PROD
                (00758)ROFRON INC (00803)SANTEE CEMENT (00853)SKYLINE LTD
                (00903)STONE MFG (00953)TEEPAK INC (01003)STARFLO CORP
                (01053)UTICA TOOL (01103)AMAX CORP (01153)AMBLER IND (01203)AM KOYO
                (01253)APPLIED ENGR (01303)BOWCAR MFG (01353)CALHOUN MFG
                (01403)CAROLINA EASTMAN (01453)CHAMP INT CORP (01503)COX WOOD PRES
                (01553)DEAN-DEMPSEY LUM (01603)GI-CO ELECTRIC (01653)ETHYL CORP
                (01703)FARMERS CONCRETE (01753)FIRST NAT BANK (01803)GREENWOOD MILLS
                (01853)G.MILL ORGB PL. (01903)LOWES OF ORGB (02003)ORGB REDI-MIX
                (02053)CLECKLEY MCGEE (02103)LANE ELECTRIC (02153)ORGB FCK CO
                (02203)ORGB INS AGENCY (02253)WANNAMAKER (02303)FARM CREDIT
                (02353)THUNDERBIRD MOTEL (02403)FBA BLACKMAN (02453)CO BTLD SUP
                (02503)COASTAL INTL (02553)COBURG DAIRY (02603)FT.SUMTER PET.CO
                (02653)VP KAISER LUM (02703)KIRSCH WINDOW (02753)TYSON TIRE
                (02803)MICHELIN MOTOR (02853)FARM BUREAU INS (02903)ESSEX GROUP
                (02953)CALHOUN MFG (03003)TALLEY-CORBET BOX/
                JOBTITLE(00503)PRACT NURSE (01003)ACCOUNTANT (01503)DATA PROCESSOR
                (02003)PROGRAMMER (02503)KEY PUNCH OPER (03003)FILE CLERK
                (03503)SECRETARY (04003)ACR TECH (04503)MAINT. MECH.
                (05003)BOILER MECH.(05503)IND ELECTRICIAN (06003)WELDER

                (06503)INST TECH (07003)DRAFTSMAN (07503)RECEPTIONIST
                (08503)MECH ENGR TECH (09003)SECURITY OFFICER (09503)GEN ENGR TECH
                (17003)MARKETING-SALES (17503)DIESEL MECH (18003)MACHINIST
                (18503)TOOL & DIE MAKER (19503)IND ENGR (21003)AUTO ACCNT CLERK
                (21503)IND LAB ASST (22003)TEXTILE MGR (22503)NUM CONT PROG
                (23003)MICROPROCESSOR (23503)CHEM TECH (24003)AUTO MECHANIC
                (24503)GEN BUSINESS (25003)MED LAB TECH (25503)MED LAB ASST
                (26003)RAD TECH (26503)RESP THERAPIST (27003)MED OFF ASST
                (28003)RN NURSE (28503)MED TRANSCRIBER (29003)WARD CLERK
                (29503)BOOKKEEPER (33003)LAB TECH (33503)CHEMICAL OPER
                (31003)FOREST MGR (53003)RECEPTIONIST (50013)WOOD LATHE OPER
                (26013)PRACTICAL NURSE (50021)COST CLERK (50033)METALLURGY
                (50043)PROD CONTROL (50053)INV CONTROL (50063)NUM CONT OPER
                (50073)BOILER OPER (50083)ACCTN CLERK (50093)DATA ENTRY CLERK
                (50103)ADMISSIONS ASST (50113)GEN MAINT (50123)SEWING MACH OPER
                (50133)FOREST TECH (50143)ENVIRON TECH (50153)TYPIST
                (50163)ELECT MOTOR REP (50173)DATA MGMT (50183)AUTO BODY REPAIR
                (50193)HYDRAULICS TECH/
                TYPE(1)INTERVIEW (2)PHONE (3)MAILED/
LIST FILEINFO   COMPLETE
READ INPUT DATA
END INPUT DATA
TASK NAME       GENERAL FREQUENCIES REPORT
FREQUENCIES     GENERAL=COMPID TO TYPE
OPTIONS         3,9
TASK NAME       RECRUITS BY JOBTITLE AND COMPANY
BREAKDOWN       TABLES=RECRUITS BY JOBTITLE BY COMPID
TASK NAME       JOBTITLE BY EMPLOYMENT TREND
CROSSTABS       TABLES=JOBTITLE BY EMPTREND
TASK NAME       LIST OF COMPANIES WHERE THERE ARE POSSIBLE P. R. PROBLEMS
*SELECT IF      (MKTSHARE LE 50 AND RECRUITS GE 10)
BREAKDOWN       TABLES=RECRUITS BY JOBTITLE BY COMPID
COMMENT         END OF PART 1
```

FIGURE 16

```
RUN NAME        BIL-ORANGEBURG PILOT TEST PART #2
VARIABLE LIST   COMPID2,AJOBTITL,PROGID2,EDLEV1,EDLEV2,EDLEV3,ADMPTRND,TYPE
INPUT FORMAT    FIXED(2F4.0,4F3.0,2F1.0)
INPUT MEDIUM    CARD
N OF CASES      UNKNOWN
MISSING VALUES  ALL(0)
COMPUTE         EDLEVT=EDLEV1+EDLEV2+EDLEV3
IF              (EDLEVT GE 200)NREC2=1
IF              (EDLEVT LT 200)NREC2=2
COMMENT         EDLEVT IS THE SUM OF THE ESTIMATED NUMBER OF RECRUITS FROM ALL
COMMENT         THREE EDUCATION LEVELS.
COMMENT         NREC2 EQUALS 1 FOR COMPANIES THAT ESTIMATE A TOTAL OF 20 OR MORE
COMMENT         RECRUITS ANNUALLY, AND EQUALS 2 FOR COMPANIES THAT ESTIMATE LESS
COMMENT         THAN 20 FOR A PARTICULAR JOB TITLE.
VAR LABELS      COMPID2,COMPANY IDENTIFICATION NUMBER/
                AJOBTITL,JOB TITLE/
                PROGID2,INSTRUCTIONAL PROGRAM IDENTIFICATION/
                EDLEV1,ASSOCIATE DEGREE/
                EDLEV2,CERTIFICATE/
                EDLEV3,SPECIAL COURSE/
                ADMPTRND,ESTIMATED EMPLOYMENT TREND/
                EDLEVT,TOTAL ESTIMATED RECRUITS/
                NREC2,TOTAL RECRUITS GROUPING/
                TYPE,SOURCE OF DATA/

VALUE LABELS    ADMPTRND(1)INCREASING (2)STABLE (3)DECREASING/
                AJOBTITL(00500)PRACT NURSE (0100)ACCOUNTANT (0150)DATA PR(0392)269
                (0700)PRODUCTION (0250)KEY PUNCH OPER (0300)FILE CLERK
                (0350)SECRETARY (0400)ACA TECH (0450)MAINT. MECH.
                (0500)DELIV MECH (0550)IND ELECTRICIAN (0600)WELDER
                (0650)INST TECH (0700)CRAFTSMAN (0750)RECEPTIONIST
                (0850)MECH ENGR TECH (0900)SECURITY OFFICER (0950)IGEN ENGR TECH
                (1000)MARKETING-SALES (1050)DIESEL MECH (1100)MACHINIST
                (1150)TOOL & DIE MAKER (1250)IND ENGR (1300)AUTO AGENT CLERK
                (1350)IND LAB ASST (1400)SEATTLE AGR (1450)GEN CONT PROG
                (1500)ELECTRONICS TECH (1550)CHEM TECH (1600)AUTO MECHANIC
                (1650)GEN BUSINESS (1700)MED LAB TECH (1750)MED LAB ASST
                (1800)LAB TECH (1850)RESP THERAPIST (1900)OFF ASST
                (1950)NURSE (2000)TRANSCRIBER (2050)CARD CLERK
                (2100)INSTRUMENTATION TECH (2150)LAB TECH (2200)CHEMICAL OPER
                (2250)FOREST AGR (2300)RECEPTIONIST (2350)KEYPUNCH OPER
                (2400)PRACTICAL NURSE (2450)COST CLERK (2500)RETAILBOY
                (2550)PROD CONTROL (2600)INV CONTROL (2650)SHIP CONT OPER
                (2700)BOILER OPER (2750)ACCTN CLERK (2800)DATA ENTRY CLERK
                (2850)ADMISSIONS ASST (2900)GEN MAINT (2950)DRING MACH OPER
                (3000)FOREST TECH (3050)WELDER IRON TECH (3100)TYPIST
                (3150)ELECT MOTOR REP (3200)DATA PCNT (3250)AUTO BODY REPAIR
                (3300)VERALICS TECH/
                PROGID2(1050)AG (1100)C (1150)ET (1200)EGT (1250)EET (1300)ACR
                (1350)AUTO MECH (1400)BOILERMKG (1450)DIESEL (1500)IND ELECT
                (1550)MACH SHOP (1600)TOOL & DIE (1650)MAINT. MECH. (1700)WATCHMK.
                (1750)BLDING (1800)MLT (1850)PR (1900)RAD. TECH.
                (1950)RESP. TECH. (2000)ACCTN. (2050)DATA PROC (2100)GEN.BUS.
                (2150)MARKETING (2200)SEC. SCI. (2250)GEN. OFFICE (2300)EXTENSION
                COMPID2(0005)MOLLY HILL LUM (0030)MOLLY HILL LUM (0050)HOWARD MFG.
                (0070)JW MCCAWS (0090)JEANSVILLE (0110)JASTA MFG
                (0130)WATER-ROT(0150)OMY (0170)ORANGEBURG GARMENT
                (0190)HOSPITAL (0210)CONE DEPTLING (0230)SPACIFIC PASHING
                (0250)PALMETTO BARING (0270)METHODIST HOME (0290)BOOPER LAWN PROD
                (0310)SANFORD INC (0330)SANFEE CORMT (0350)SKYLINE LTD
                (0370)STONE MFG (0390)TREPAK INC (0410)STARPLO CORP
                (0430)UTICA WOOL (0450)MAG CORP (0470)MANUFR INC (0490)AR MOVE
                (0510)PEERLESS ENGR (0530)BOAC AR MFG (0550)CALHOUN MFG
                (0570)CAROLINA EASTMAN (0590)CHAMP INT CORP (0610)COO WOOD PROD
                (0630)--PEPSI LUM (0650)DATA-CO ELECTRIC (0670)PLYWOOD CORP
                (0690)PARKERS CONCRETE (0710)FIRST NAT BANK (0730)
                (0750)GM-HILL ORGN PL. (0770)LOWES OF ORGN (0790)
                (0810)LECKLEY MCGEE (0830)LAKE ELECTRIC (0850)ORGN PCK CO
                (0870)ORGN INS AGENCY (0890)
                (0910)FARM CREDIT
                (0930)THUNDERBIRD MOTEL (0950)REBA BLACKMAN (0970)CLUB BLDG INC
                (0990)COASTAL INTL (1010)COBURG DAIRY (1030)OPT.SUPPLY PKT.CO
                (1050)OP RAYSON LUM (1070)SEISCH WINDOW (1090)
                (1110)ECKLIN MOTOR (1130)FARM BUREAU INS (1150)ESSEX GROUP
                (1170)CALHOUN MFG (1190)TALLEY-CREDIT BOX/
                TYPE(1)INTERVIEW (2)PHONE (3)MAILED/
LIST FILENO     COMPLETE
FREQUENCIES     GENERAL=COMPID2 TO TYPE
OPTIONS         3,9
READ INPUT DATA
END INPUT DATA
TASK NAME       ED LEVEL BY JOBTITLE BY COMPANY
BREAKDOWN       TABLES=EDLEVT BY AJOBTITL BY COMPID2
BREAKDOWN       TABLES=EDLEV1 TO EDLEV3 BY AJOBTITL BY COMPID2
TASK NAME       JOBTITLE BY EMPLOYMENT TREND
CROSSTABS       TABLES=AJOBTITL BY ADMPTRND
TASK NAME       DATA FOR TECHNOLOGY DIVISION
*SELECT IF      (PROGID2 GE 100 AND PROGID2 LT 2000

BREAKDOWN       TABLES=EDLEVT BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 100 AND PROGID2 LT 2000)
BREAKDOWN       TABLES=EDLEV1 TO EDLEV3 BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 100 AND PROGID2 LT 2000)
CROSSTABS       TABLES=AJOBTITL BY ADMPTRND
TASK NAME       DATA FOR INDUSTRIAL DIVISION
*SELECT IF      (PROGID2 GE 200 AND PROGID2 LT 3000)
BREAKDOWN       TABLES=EDLEVT BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 200 AND PROGID2 LT 3000)
BREAKDOWN       TABLES=EDLEV1 TO EDLEV3 BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 200 AND PROGID2 LT 3000)
CROSSTABS       TABLES=AJOBTITL BY ADMPTRND
TASK NAME       DATA FOR ALLIED HEALTH DIVISION
*SELECT IF      (PROGID2 GE 300 AND PROGID2 LT 4000)
BREAKDOWN       TABLES=EDLEVT BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 300 AND PROGID2 LT 4000)
BREAKDOWN       TABLES=EDLEV1 TO EDLEV3 BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 300 AND PROGID2 LT 4000)
CROSSTABS       TABLES=AJOBTITL BY ADMPTRND
TASK NAME       DATA FOR BUSINESS DIVISION
*SELECT IF      (PROGID2 GE 400 AND PROGID2 LT 5000)
BREAKDOWN       TABLES=EDLEVT BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 400 AND PROGID2 LT 5000)
BREAKDOWN       TABLES=EDLEV1 TO EDLEV3 BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 400 AND PROGID2 LT 5000)
CROSSTABS       TABLES=AJOBTITL BY AERPTRND
TASK NAME       DATA FOR EXTENSION SERVICE
*SELECT IF      (PROGID2 GE 500 AND PROGID2 LT 6000)
BREAKDOWN       TABLES=EDLEVT BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 500 AND PROGID2 LT 6000)
BREAKDOWN       TABLES=EDLEV1 TO EDLEV3 BY AJOBTITL BY COMPID2
*SELECT IF      (PROGID2 GE 500 AND PROGID2 LT 6000)
CROSSTABS       TABLES=AJOBTITL BY AERPTRND
COMMENT         END OF PART 2
FINISH
/*
//
```

FIGURE 17

```
RUN NAME        ORANGEBURG PILOT TEST PART #3
VARIABLE LIST   COMPID3,TRTOPIC,PROGID3,DESINVNO,DESINVHR,PREFT1 TO PREFT5,
                LOCPREF,TYPE
INPUT FORMAT    FIXED(F4.0,3F3.0,F2.0,7F1.0)
INPUT MEDIUM    CARD
N OF CASES      UNKNOWN
MISSING VALUES  ALL(0)
IF              (PREFT1 EQ 1)PREFTIME=1
IF              (PREFT2 EQ 1)PREFTIME=2
IF              (PREFT3 EQ 1)PREFTIME=3
IF              (PREFT4 EQ 1)PREFTIME=4
IF              (PREFT5 EQ 1)PREFTIME=5
IF              (LOCPREF EQ 1)NLOC1=1
IF              (LOCPREF NE 1)NLOC1=0
IF              (LOCPREF EQ 2)NLOC2=1
IF              (LOCPREF NE 2)NLOC2=0
IF              (LOCPREF EQ 3)NLOC3=1
IF              (LOCPREF NE 3)NLOC3=0
COMMENT
COMMENT         NLOC IS 1 IF THAT LOCATION IS PREFERRED, AND 0 IF NOT.

COMMENT
COMMENT
COMMENT         ENPOT IS THE NUMBER OF INDIVIDUALS THAT MIGHT ENROLL AT A
COMMENT         SPECIFIC PREFERRED TIME.
COMMENT
COMPUTE         ENPOT1=PREFT1*DESINVNO
COMPUTE         ENPOT2=PREFT2*DESINVNO
COMPUTE         ENPOT3=PREFT3*DESINVNO
COMPUTE         ENPOT4=PREFT4*DESINVNO
COMPUTE         ENPOT5=PREFT5*DESINVNO
VAR LABELS      COMPID3,COMPANY IDENTIFICATION NUMBER/
                TRTOPIC,TRAINING TOPIC/
                PROGID3,INSTRUCTIONAL PROGRAM IDENTIFICATION/
                DESINVNO,ESTIMATED ENROLLMENT/
                DESINVHR,APPROXIMATE HOURS PER MONTH/
                PREFTIME,PREFERRED TIME/
                LOCPREF,PREFERRED LOCATION/
                NLOC1,ON JOB SITE/
                NLOC2,AT AREA FACILITY/
                NLOC3,ON CAMPUS/
                PREFT1,AM/
                PREFT2,NOON/
                PREFT3,PM/
                PREFT4,EVENING/
                PREFT5,SATURDAY/
                TYPE,SOURCE OF DATA/
                ENPOT1,AM ENROLLMENT POTENTIAL/
                ENPOT2,NOON ENROLLMENT POTENTIAL/
                ENPOT3,PM ENROLLMENT POTENTIAL/
                ENPOT4,EVENING ENROLLMENT POTENTIAL/
                ENPOT5,SATURDAY ENROLLMENT POTENTIAL/
VALUE LABELS    PREFTIME(1)AM (2)NOON (3)PM (4)EVENING (5)SATURDAY/
                LOCPREF(1)JOB SITE (2)AREA FACILITY (3)CAMPUS/
                TRTOPIC(1)ADVANCED ARCHERY (999)BOOKKEEPING/
                NLOC1 TO NLOC3 (0)NO (1)YES/
                PREFT1 TO PREFT5 (0)NO (1)YES/
                TYPE(1)INTERVIEW (2)PHONE (3)MAILED/
                PROGID3(105)AG [illegible] (110)CJ (119)MET (120)EGT (123)E.T [illegible]
                (210)AUTO MECH (215)BRICKLAYING [illegible]
                (230)MACH SHOP [illegible]
                [illegible] TECH.
                (325)RESP. TECH. (405)ACC'NG. (410)DATA PROC (415)GEN.BUS.
                (420)MARKETING (425)SEC.SCI. (430)GEN. OFFICE (500)EXTENSION/
                COMPID3(0020)[illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                [illegible]
                (01700)FARMERS CONCRETE (01750)FIRST NAT BANK [illegible]
                (01850)GR.MILL ORGB PL. (01900)LOWES [illegible]
                (02050)CLECKLEY [illegible] (02100)LAKE ELECTRIC [illegible] PCH CO
                (02200)JAGO INS AGENCY (02230)[illegible] CREDIT
                [illegible] BLDG SUP
                [illegible] DAIRY [illegible]
                (02650)PP KAISER LUM [illegible] TIRE
                [illegible] BUREAU INC [illegible]

                (02950)CALHOUN MFG (03000)TALLEY-CORBET BOX/
                TRTOPIC(1005)TR TRAILER OPER (1010)CERT WELDER (1015)SHIPPING CLERK
                (1020)SAW OPER (1025)SUPER.TRAIN.(1030)MGMT. TRAIN (1035)BASIC ELECT
                (1040)SURVEYING (1045)RESEEDING (1050)FOREST MGMT (1055)E.M.T.
                (1060)C.P.R.(1065)FIRST AID (1070)SAFETY (1080)FOREST FIRE CONT
                (1085)TIMBER CRUIS (1090)AUTO ACCNT CLERK (1095)TEXTILE MGT
                (1100)INC LAB ASST (1105)SEWING MACH MECH (1110)FORKLIFT OPER
                (1115)SEWING MACH OPER (1120)INSP. TRAIN. (1125)CLOTH COPPER
                (1130)SUPER.TRAIN.(1135)INV CONT TRAIN (1140)QUALITY CONT
                (1145)WEAVER (1150)HOUSEKEEP-MAINT (1155)NURSE ASST
                (1160)IN-SERV TRAIN (1165)TEACHING TRNG (1170)CLINICAL INST
                (1175)BOOKKEEPING (1180)BLUEPRINT READING (1185)TECH RPT WRITING
                (1190)EFFECTIVE COMM (1195)PREC INST (1200)INSTRUMENTATION
                (5000)FUND MATH (5010)MAINT REPAIR (5020)HYD-PNEUMATICS
                (5030)SEC. COURSES (5040)IND FIRE CONT (5050)RESP THERAPY
                (5060)RADIOLOGIC TECH (5070)FOOD SERV SUPER (5080)FIRE BRIGADE
                (5090)TV REPAIR (5100)FIRE TRAINING (5110)PERS MGMT TRAIN
                (5120)BAND SAW FILER (5130)FIRST AID WKSP (5140)EMER-DISASTER-FIRE
                (5160)PHYS THERAPY (5170)COMPUTER OPER (5180)POWER TOOL REP
                (5190)AUTO ELECTRONICS (5200)FRONT-END ALIGN (5210)CONST-BUILD COMP
                (5220)SALESMANSHIP (5230)AUTO MECH REFRESHER (5240)EFF LISTENING
                (5250)EFF COMM (5260)TRUCK DRIVER (5270)REAL ESTATE (5280)PHONE TECH
                (5290)SHORT ACCNT COURSE (5300)LT MASON-WOOD (5310)LT CARPENTRY/
LIST FILEINFO   COMPLETE
READ INPUT DATA
END INPUT DATA
TASK NAME       GENERAL FREQUENCIES REPORT
FREQUENCIES     GENERAL=COMPID3 TO TYPE
OPTIONS         3,9
TASK NAME       TRAINING TOPIC BREAKDOWN
BREAKDOWN       TABLES=DESINVNO BY TRTOPIC BY COMPID3
TASK NAME       TRAINING TOPIC BY PREFERRED TIME
CROSSTABS       TABLES=TRTOPIC BY PREFTIME
TASK NAME       COMPANY BY PREFERRED TIME
CROSSTABS       TABLES=COMPID3 BY PREFTIME
TASK NAME       TRAINING TOPIC BY PREFERRED LOCATION
CROSSTABS       TABLES=TRTOPIC BY LOCPREF
TASK NAME       COMPANY BY PREFERRED LOCATION
CROSSTABS       TABLES=COMPID3 BY LOCPREF
COMMENT         THIS IS THE END OF PART #3
FINISH
/*
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APPENDIX C

PILOT TEST WORKSHOP AGENDAS

AGENDA

Pilot Test Workshop
for the Assessment of
Business and Industry Needs
Orangeburg-Calhoun County Area
September 29–30, 1980

Monday, September 29, 1980

9:00 a.m.	Welcome; Coffee	Groomes
	Involvement in Project	Black
	Project Overview 1. Background 2. Objectives of Project 3. Rationale for Project 4. Description of Pilot Test Procedures	Denison; Nasman
10:15 a.m.	Break	
10:30 a.m.	Committee Introduction 1. Membership 2. Responsibilities	 Black Denison; Nasman
10:45 a.m.	Preliminary Activities 1. Job Title Identification 2. Training Topic Identification 3. Employee Identification (employees have been selected)	Team
12:30 p.m.	Lunch Break	
2:00 p.m.	Collection of Data and Use of Instrument 1. Strategies 2. Selection 3. Survey Practice and Interview Style	Denison; Nasman
3:30 p.m.	Break	
4:00 p.m.	Review and Questions	Denison; Nasman

Tuesday, September 30, 1980

9:00 a.m.	Meet in Board Room
9:15 a.m.	Team members will call on one industry during morning hours
9:15 a.m.	National Center group will meet with others to Review Data Reporting Formats 1. Coding and Keypunch Instruments 2. Overview of Computer Program 3. Computer Output Options
1:00 p.m.	Report Back to Board Room 1. Survey Employee Sample 2. Review 3. Proceed with Assessment

DALLAS PILOT TEST WORKSHOP

October 19, 1980

Introductions

I. Project Overview
   A. Background
      1. National Postsecondary Alliance
      2. Project Objectives
      3. Model Organization
         a. Survey of Literature
         b. Technical Panel Review
         c. Pilot Test
         d. TEchnical Panel Review
         e. Model Dissemination

   B. Model Rationale
      1. Traditional Approaches
      2. Local Focus of B.I.L. Model
      3. Questions to be addressed by B.I.L. Model
      4. Overview of Pilot Test Procedures

II. Pilot Test Organization
   A. Steering Committee Membership and Responsibilities

   B. Instrumentation Work Session
      1. Job Title Identification
      2. Training Topic Identification
      3. Employer Sampling Strategy

   C. Data Collection Work Session
      1. Interview Techniques and Practice
      2. Phone Techniques and Practice

III. Data Reporting Format Review
(For Key Personnel—Will take place while interviewers are trying-out data gathering techniques)
   A. Coding and Keypunching Instruments

   B. Overview of Computer Program

   C. Computer Printout Options

IV. Pilot Test Debriefing
   A. Review of Procedures

   B. Recommended Alterations

   C. Final Directions

North Central Technical Institute
Research, Planning & Development
October 17, 1980

BUSINESS, INDUSTRY, LABOR (B.I.L.)

Needs Assessment Project
National Alliance for Postsecondary Vocational Education

AGENDA

October 22–23, 1980

Wednesday, October 22, 1980

8:30 a.m.	–	10:00 a.m.	Alliance Staff meet with Dr. Paulsen and Mr. Day
10:00 a.m.	–	11:00 a.m.	Orientation – Project Overview
11:00 a.m.	–	2:00 p.m.	Survey Design and Data Gathering Strategies, Schubert, Roberts, Lalor, Druckrey, Day, C. Owens, Bychinski, Fredericksen, Paulsen Michlein
2:00 p.m.	–	3:00 p.m.	Interviewing procedures
3:00 p.m.	–	5:00 p.m.	Interview conducted

Thursday, October 23, 1980

8:30 a.m.	–	10:00 a.m.	Interviews conducted
			Review Data Reporting Format Schubert, Roberts, Lalor, Day, Paulsen, Michlein
10:00 a.m.	–	12:00 noon	Review of Interviews, Analysis of Results

WAUSAU PILOT TEST WORKSHOP

October 22–23, 1980

Introductions

I. **Project Overview**
- A. Background
  1. National Postsecondary Alliance
  2. Project Objectives
  3. Model Organization
     a. Survey of Literature
     b. Technical Panel Review
     c. Pilot Test
     d. TEchnical Panel Review
     e. Model Dissemination

- B. Model Rationale
  1. Traditional Approaches
  2. Local Focus of B.I.L. Model
  3. Questions to be addressed by B.I.L. Model
  4. Overview of Pilot Test Procedures

II. **Pilot Test Organization**
- A. Steering Committee Membership and Responsibilities

- B. Instrumentation Work Session
  1. Job Title Identification
  2. Training Topic Identification
  3. Employer Sampling Strategy

- C. Data Collection Work Session
  1. Interview Techniques and Practice
  2. Phone Techniques and Practice

III. **Data Reporting Format Review**

For Key Personnel – Will take place while interviewers are trying out data gathering techniques)

- A. Coding and Keypunching Instruments

- B. Overview of Computer Program

- C. Computer Printout Options

IV. **Pilot Test Debriefing**
- A. Review of Procedures

- B. Recommended Alterations

- C. Final Directions

APPENDIX D

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Hudson, NC

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Kalamazoo Valley Community College
Kalamazoo, MI

Linn-Benton Community College
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